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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,642	04/12/2004	Craig R. Horne	3275.06US03	1933
7590	04/04/2006		EXAMINER	
Patterson, Thuente, Skaar & Christensen, P.A. 4800 IDS Center 80 South 8th Street Minneapolis, MN 55402-2100			HOFFMANN, JOHN M	
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/822,642

Applicant(s)

HORNE ET AL.

Examiner

John Hoffmann

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20,22-26 and 28-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20,22-26 and 28-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/27/05</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/30/2006 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20, 22-26, 28-30, 35, 39-40 and 42-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "metal" and/or "rare earth metal" are indefinite as to their meanings. Applicant argues in the paper of 1/09/2006 (page 10) that "rare earth metal" encompasses non-metals, such as oxides. It is well understood that metals and oxides are mutually exclusive substances and applicant has failed to define the terms in any manner.

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**From MPEP 2111.01:**

**Plain Meaning**

**I. THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING" UNLESS THEY ARE DEFINED IN THE SPECIFICATION**

While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. In re American Academy of Science Tech Center, **367**

F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004) (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (discussed below); Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004)

(Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. Thus, "heating the resulting batter-coated dough to a temperature in the range of about 400oF to 850oF" required heating the dough, rather than the air inside an oven, to the specified temperature.). One must bear in mind that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification. See, e.g., Liebel-Flarsheim Co. v. Medrad Inc., 358 F.3d 898, 906, 69 USPQ2d 1801, 1807 (Fed. Cir. 2004) (discussing recent cases wherein the court expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment). It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. In re Vogel, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970). See also Superguide Corp. v. DirecTV Enterprises, Inc., 358 F.3d 870, 875, 69 USPQ2d 1865, 1868 (Fed. Cir. 2004)

A metal is a metal unless applicant has defined the term differently. See the attached Merriam-Webster's dictionary which indicates that a metal is a ductile substance that is a good conductor of electricity and heat, forms cations by loss of electrons and yields basic oxides and hydroxides. It is clear that applicant is of the position that the plain meaning of metal (and rare earth metal) is something quite different from the plain meaning.

It is noted that the specification does not clearly set forth an explicit definition, thus Applicant is not acting as lexicographer. *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F3d 985, 989 (Fed. Cir.1999).

Claims 42-43: there is no antecedent basis for "the relative density" nor is there any indication as what the density is relative to.

Claims 20, 22-26, 28-30, 35 and 39-40 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims 20, 22-26, 28-30, 35 and 39-40 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in the reply filed 1/09/2006. In that paper, applicant has stated that the claims encompass non-metal particles, and this statement indicates that the invention is different from what is defined in the claim(s) because the claims require "rare earth metals" and applicant has not defined the terms to encompass non-metals.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hicks 4749396.

Claim 20 is clearly met. As to the "rare earth metal": in the 01/09/2006 response Applicant (on page 10) argues that page 7, lines 18-20 (specification) is support for the argument that the term "rare earth metal" covers rare earth oxides. The cited portion of the specification makes no mention of any rare earth. Thus it appears Applicant might be taking the position that the term "rare earth metal" encompasses any metal or metalloid in their elemental form or in compounds. Thus given such a broad definition, Hicks' silica is a rare earth metal. This also makes sense in that applicant argues that a "rare earth metal" need not have any metal there is no reason to assume that a "rare earth metal" have any rare earth.

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 28-31, 35-43 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks 4749396 in view of Berkey 4684384 and Kobayashi 3957474.

As previously discussed Hicks discloses forming a powder coating on an insert and then inserting the insert into a glass preform structure. However, Hicks does not disclose using a beam in a reactor to form the reactant stream. Rather, Hicks merely discloses heating silicon chloride and oxygen to create and deposit the powder coating (col. 3 line 58 to col. 4, line 2 and col. 4, lines 55-60) via CVD: examiner could find no mention of the heat source.

Berkey teaches that a laser can be used to heat the reactants in a CVD process for making coatings of glass soot on optical fiber preforms (see col. 1, lines 23-30). Kobayashi discloses it is better to use a laser rather than a flame when making a soot-based fiber preform when reacting silicon chloride and oxygen (col. 1, lines 36-44 and col. 3, line 2) because of the problem with water created by flames.

It would have been obvious to perform the Hicks CVD heating with a laser, since such is a known superior method of creating a soot layer – by virtue of no water in the preform.

As to the use of a chamber, Kobayashi discloses the use of a chamber. It would have been obvious to use a chamber to protect people from the hi-power laser and deadly chlorine gas.

As to claim 35: On page 10 of the paper of 01/09/2006 applicant points to the specification page 7 lines 18-20 and reproduces the sentence which states "...the inorganic particals generally comprise metal and/or metalloid elements in there elemental form and/or in compounds" when referring to the term "rare earth metal". Thus it is deemed that applicant's position is that the term "rare earth metal" encompasses metalloid elements in compounds. Hicks silica is a metalloid element (silicon) in compound form.

Claim 36: Kobayashi and Berkey disclose rotation of the rod. It would have been obvious rotate the rod when performing the Hicks coating, so that one can coat all sides of the rod, without having to move the burner.

Claim 37: figure 3 of Hicks shows a uniform distribution.

Claim 38 is clearly met.

Claims 42-43 do not require any thing specific have the density. Nor is there any indication as to what it is relative to. As can be seen from the Kobayashi drawings the energy density of the laser changes based upon its location. And the density of product stream changes. It is deemed that one could easily find locations within the stream



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and/or laser such that one location has a particle/mass/energy density that is 0.3 (or 0.4 or 0.1) that of another location in the stream or laser.

Claims 39-41, 22-23 and 28-30 are clearly met.

Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks 4749396 in view of Berkey 4684384 and Kobayashi 3957474 as applied to claim 31, and further in view of Miller 4501602.

Hicks does not disclose the particle size to use for the coating. Col. 10, lines 34-45 of Miller discloses particles no larger than 0.1 microns (i.e. 100 nm) are preferred because larger particles can result in voids. This makes sense, smaller particle means smaller gaps between particles. It would have been obvious to make the CVD particles no larger than 100 nm so as to inhibit the creation of voids as disclosed by Miller.

This covers the sizes for all of claims 32-34.

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks 4749396 as applied to claim 20, and further in view of Miller 4501602.

See how Miller is applied above.

***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

It is argued that it was clear that Applicants intended "rare earth metal" to cover compounds with rare earth metal elements. The only thing in the specification that applicant points to is a sentence on page 10 which does not mention any rare earth. Moreover page 10 give no indication that such was a definition.

The specification must clearly set forth the definition explicitly and with reasonable clarity, deliberateness and precision. *Teleflex Inc. v. Ficosa North America Corp.*, 63 USPQ2d 1374, 1381 (fed. Cir. 2002), *Rexnord Corp. v. Laitram Corp.* 60 USPQ2d 1851, 1854 (fed. Cir. 2001) and MPEP 2111.01.

Applicant's specification does not set forth any definition explicitly nor with any clarity nor with deliberateness nor with any precision.

Since the specification does not clearly set forth an explicit definition, Applicant is not acting as lexicographer. *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F3d 985, 989 (Fed. Cir.1999).

It is further argued that the amendment of September 8, 2005 made it clear that "rare earth metal" encompasses non-metals. This is largely irrelevant. The specification must be complete at the time of filing. Applicant cannot now redefine "rare earth metal" so as to broaden claim coverage. Especially since Examiner has searched for and determine the use of rare earth metal(lic) substances (i.e. not any non-metals) defines a patentable invention.

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Page 23, lines 25-29 (and other places in Applicants' specification) makes clear distinctions between metals, metalloids and their compositions including various non-metals. It does not seem reasonable to interpret the claims in a manner which requires little or no distinction between metals and non-metals. Claims have to be interpreted in a manner consistent with the specification. Applicant's asserted interpretation is inconsistent with the specification which clearly shows there is a distinction.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John Hoffmann

**JOHN HOFFMANN  
PRIMARY EXAMINER  
GROUP 1300**

3-23-06